

Work Order ID 115290

March-24-14 11:08:03 AM

115290

Page 1

Item ID: D412-664-203

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Aft Crosstube - High

Stop *NS2*

Start Date: 3/24/14 Start Qty: 1.00

1

Cust Item ID:

Required Date: 4/07/14 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MCS Date: 14-03-24 Tooling:

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

D412-664-243	E/DEO
--------------	-------

100	Document Control	0.00	APR 08 2014						
-----	------------------	------	-------------	--	--	--	--	--	--

100

DC

Doc.Control -USB or Paperwork

DOCUMENT CONTROL

Memo M.A.

0.00

Photocopy bluefile and create labels as per PPP D412-664-203 CHG 009

110	Packaging	0.00							
-----	-----------	------	--	--	--	--	--	--	--

110

Packaging

Packaging

Packaging

Memo

0.00

120	BENDING MACHINE - CROSSTUBES	0.00							
-----	------------------------------	------	--	--	--	--	--	--	--

120

CNC Bend 2

CNC Alpha 160 Bender

BENDING MACHINE - CROSSTUBES

Memo

0.00

Bend tube as per Dwg D412-664-243 using CNC bender program 412-aft and Folio FT010

DAS
06
9-89

Mh-21

Mh 14/03/24

Pho →
Last Page

Mh 14/03/25

Work Order ID 115290

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Page 2

Item ID: D412-664-203

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Aft Crosstube - High

Stop *NS2*

Start Date: 3/24/14

Start Qty: 1.00

1

Cust Item ID:

Required Date: 4/07/14

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC15- Crosstube Dimensional Check

0.00

DAS

16

9-89

14/03/26

130

QC

Memo

0.00

Quality Control

140

Crosstubes

0.00

140

Crosstubes

Memo

0.00

Crosstubes

1-Drill pilot holes in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551 and drill table DT8577 using #9 holes as per QSI 10 to install towers.

2-Ream hole to finish size in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-SCRIBE PART # & BATCH #

4- *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE *** Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243

JB/BL 14-03-26

BL/JW 14-03-25

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Item ID: D412-664-203 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Aft Crosstube - High
Start Date: 3/24/14 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 4/07/14 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***	0.00 0.00	DAS 27 19-89 4/3/27						
170 *170* HandFXtube Hand Finishing Crosstubes	Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1- CLEAN CROSSTUBE WITH WASH'N WIPE	0.00 0.00				1	0	0	AS 14-3-27
180 *180* Outsource2 Outsource process - NDT	Outsource process - NDT per QSI038 4.1 Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038Or Issue P/O: 23535 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	0.00 0.00							CZ 14/103/27①

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Item ID: D412-664-203

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N900040100

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Stop *NS2*

Start Date: 3/24/14 Start Qty: 1.00

1

Cust Item ID:

Required Date: 4/07/14 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Packaging	0.00							
190									
Packaging	Memo	0.00							
Packaging	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***								
	Inspect for transit damage								
	Ensure copy of NDT results attached to work order.								
200	QC5- Inspect part completeness to step on W/O	0.00							
200									
QC	Memo	0.00							
Quality Control	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***								
	Inspect for damage & ensure results are as per Dwg D412-664-203								
203		0.00							
203									
HandFXtube	Memo	0.00							
Hand Finishing Crosstubes	*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***								
	1- PRESSURE WASH AND THEN USE WASH'N WIPE TO CLEAN CROSSTUBE BEFORE CHEMICAL CONVERSION								

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Item ID: D412-664-203

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N900040100Setup Start ***NS1***

Revision ID:

Item Name: Aft Crosstube - High

Stop ***NS2***

Start Date: 3/24/14 Start Qty: 1.00

1

Cust Item ID:

Required Date: 4/07/14 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

205

QC7-Inspect Chemical Conversion Coat

0.00

205

QC

Memo

0.00

Quality Control

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE ***

1	0	0	AS
14-3-28			

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Item ID: D412-664-203

Accept

N900040100

Setup

Start

NS1

Revision ID:

Stop

NS2

Item Name: Aft Crosstube - High

Start Date: 3/24/14

Start Qty: 1.00

1

Cust Item ID:

Required Date: 4/07/14

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

QC14- Inspect Spray Paint

0.00

220

QC

Memo

0.00

Quality Control

Then, Wrap in plastic bag to protect from scratches

Handwritten notes:
14/3/31
14/4/2

230

Crosstubes

0.00

230

Crosstubes

Memo

0.00

Crosstubes

Assemble as per Dwg D412-664-203

1- Install chafing shield as per DEO D412-664-243. Top holes should be facing up.

A/R Proseal 890 Batch: 128038EXP: 10/14

2- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe

3- Install support with Scotch-Weld DP460 and install clamps as per DEO Dwg D12-664-243 using installation jig DT9024. Torque clamps as per dwg

A/R Scotch-Weld DP460 Batch: 126005EXP: 7/14

Handwritten notes at bottom right:
1 0 0 14-4-2

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Item ID: D412-664-203 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Aft Crosstube - High
Start Date: 3/24/14 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/07/14 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240 *240* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 24HOURS AS PER DWG.***	0.00 DAS 16 9-89 14604107							
250 *250* Packaging Packaging	Pick Kit Memo	0.00 0.00				1X	DAS 28 9-89	APR 07 2014	DAS 31 9-89
260 *260* QC Quality Control	QC4- 100% Inspect kits for completeness Memo	0.00 0.00					DAS 06 9-89	APR 08 2014	

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Item ID: D412-664-203

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Aft Crosstube - High

Start Date: 3/24/14 Start Qty: 1.00

1

Cust Item ID:

Required Date: 4/07/14 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							DAS 06 3-22
270	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-664-203 *****Ensure tube is not packaged if curing time is less than 12 hrs, see step 27 for application time & date ***** Time & date of packaging: _____ Location: <u>103</u>								
280	QC21- Final Inspection - Work Order Release	0.00							
280									
QC	Memo	0.00							
Quality Control									

APR 08 2014

DAS
31
9-89

14/4/99

14-04-09

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Picklist Print

March-24-14 11:08:07 AM

Page 1

Work Order ID: 115290

115290

Parent Item: D412-664-203

D412-664-203

Parent Item Name: Aft Crosstube - High

Start Date: 3/24/14

Required Date: 4/07/14

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:E04.02.16Reformat; Added D3189-1K/DS
 IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
 IPP Rev:G 06.12.08 per ECN 886 EC
 IPP Rev:H 07-04-30 As per Rev D JLM
 IPP Rev:I 08-06-12 add comment in seq. 21 DD verified by:EC IPP rev J
 11.04.21 DEO D412-664-243-E-1 EC verified DD IPP REV:K
 11.10.03 DEO D412-664-243-E-2 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D412-664-203TRN		Manufactured	No			110	Each	10.0000	1	1			

D412-664-203TRN

Crosstube Turning Detail

Location	Loc Qty	Loc Code
LG014	10	
109231	1	
113974	1	
113975	1	
113976	1	
114593	1	
114594	1	
114595	1	
114596	1	
114848	1	
114850	1	

D MD 14/03/24

D2896-1

Manufactured No

230

Each

22.0000

1

1

D2896-1

Support

A 14-4-6

Location	Loc Qty	Loc Code
LG053	22	
103376	2	
108280	20	

①

Picklist Print

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Work Order ID: 115290

115290

Parent Item: D412-664-203

D412-664-203

Parent Item Name: Aft Crosstube - High

Start Date: 3/24/14

Required Date: 4/07/14

Start Qty: 1.00

Required Qty: 1.00

D3189-1

Manufactured No

230

Each

10.0000

2

2

D3189-1

AB 14-4-6

Chaffing Shield

Location ~~115238~~ **115249**

Loc Qty

Loc Code

(2)

CA

4

115238

4

FG

4

36065

4

LG053

2

111766

2

D3595-063-570

Manufactured No

230

Each

64.0000

2

2

D3595-063-570

AB 14-4-6

Rubber Cushion

Location

Loc Qty

Loc Code

FG

8

42243

8

LG051

50

111923

14

114851

36

LG055

6

107467

6

Picklist Print

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Work Order ID: 115290

115290

Parent Item: D412-664-203

D412-664-203

Parent Item Name: Aft Crosstube - High

Start Date: 3/24/14

Required Date: 4/07/14

Start Qty: 1.00

Required Qty: 1.00

MS21920-28

Purchased

No

230

Each

50.0000

4

4

MS21920-28

Clamp

AS 14-4-6

(4)

Location

Loc Qty

Loc Code

FG

5

105884

5

LG050

45

M127061

1

M127544

11

M127785

3

M128129

13

M128363

17

MS21920-30

Purchased

No

230

Each

62.0000

2

2

MS21920-30

Clamp

AS 14-4-6

Location

Loc Qty

Loc Code

LG050

62

m126336

14

m126453

48

(2)

AN6-40A

Purchased

No

250

Each

108.0000

4

4

AN6-40A

Bolt

DAS
28
9-89

APR 07 2014

Location

Loc Qty

Loc Code

ST504

108

M127817

33

M128403

75

1X

3X

DAS
06
9-89

DAS
06
9-89

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Shop Packet Print

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Picklist Print

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Work Order ID: 115290

115290

Parent Item: D412-664-203

D412-664-203

Parent Item Name: Aft Crosstube - High

Start Date: 3/24/14

Required Date: 4/07/14

Start Qty: 1.00

Required Qty: 1.00

AN6-41A

Purchased

No

250

Each

70.0000

2

2

AN6-41A

Bolt

**

DAS
28
9-89

APR 07 2014

DAS
06
9-89

Location

Loc Qty

Loc Code

ST340

20

M126180

20

ST504

50

M128398

50

2X

DAS
31
9-89

MS21042L6

Purchased

No

250

Each

129.0000

6

6

MS21042L6

Nut

**

DAS
28
9-89

DAS
06
9-89

Location

Loc Qty

Loc Code

ST314

129

m127304

2

m127831

26

m127904

101

129635

DAS
31
9-89

NAS1149D0663J

Purchased

No

250

Each

1,801.000

18

18

NAS1149D0663J

Washer

**

DAS
28
9-89

DAS
06
9-89

Location

Loc Qty

Loc Code

ST294

7

123265

4

M126284

3

ST510a

1794

M126334

699

M127813

395

M127916

700

18X

DAS
31
9-89

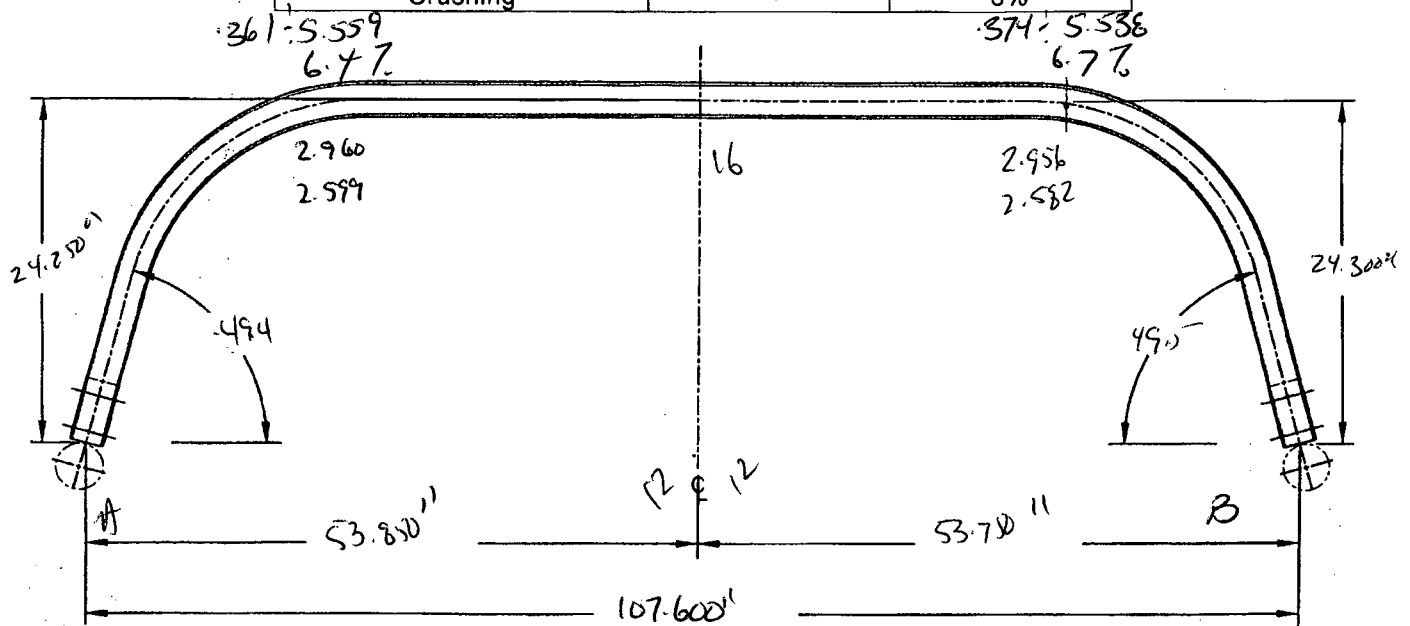
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Shop Packet Print

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DART AEROSPACE LTD		Work Order:	115290
Description: Crosstube High Aft (412)		Part Number:	D412-664-203
Inspection Dwg: D412-664-243 Rev: E		Page 1 of 1	

Required Dimension	Min	Max
Height	24.24	24.50
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70
Bending Passes	8	--
Crushing	--	6%



	Side A	middle	Side B
Bending Passes	12	16	12
Crushing	6.4%		6.7%
Comments			
Side A = 6.4% crushing @ 12 Passes.			
middle = 16 Passes			
Side B = 6.7% crushing @ 12 Passes.			

QC15 Inspection	DAS
Date	16 3-89 14/03/26

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. D	KJ/JLM	
C	10.02.02	Dwg Rev updated	KJ	
D	12.04.16	Added bending, crushing dimensions	KJ	IP

Item	Qty -243	Part Number	Description
1	X	D412-664-243	CROSSTUBE ASSEMBLY (412 HIGH AFT)
2	1	D6009-129	CROSSTUBE
3	2	D3595-063-570	RUBBER CUSHION
4	1	D2896-1	SUPPORT
5	2	D3189-1	CHAFING SHIELD
6	2	D2856-600-1009	ABRASION STRIP
7	4	MS21920-28	CLAMP
8	2	MS21920-30	CLAMP (OR MS21920-32)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

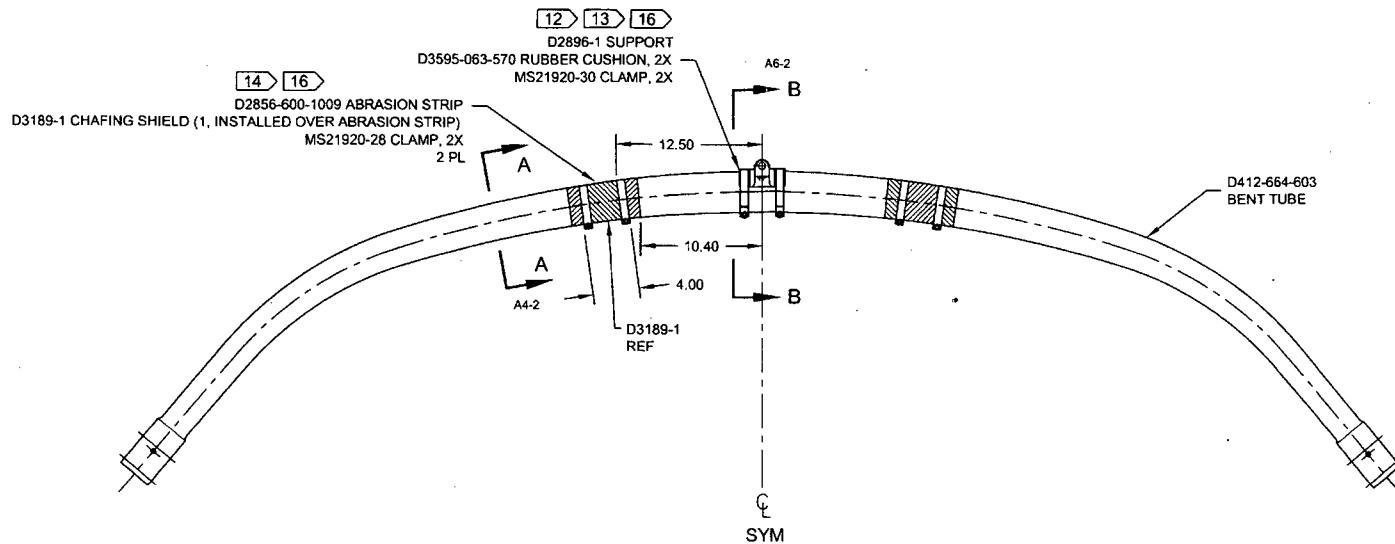
GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6009-129
FINISHED LENGTH = 124.100±0.020 (BEFORE BENDING/TRIMMING)
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D412-664-243" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- WEIGHT: 47.0 lbs (PER IIN-D212-664)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- INSTALL D2896-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2896-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- INSTALL MS21920-30 CLAMPS (OR -32) WITH D3595-063-570 RUBBER CUSHIONS TO SECURE THE D2896-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- INSTALL D2856-600-1009 ABRASION STRIPS WITH A 0.13 REF GAP ON BOTTOM SIDE OF CROSSTUBE PER QSI 035.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- TORQUE CLAMPS 80 TO 100 IN.-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

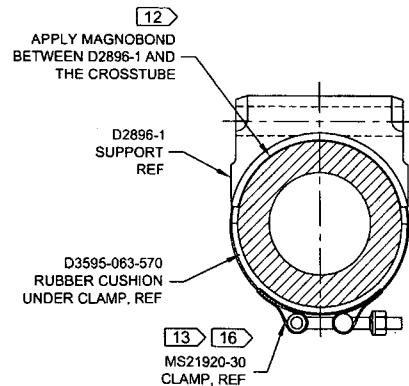
E	REFORMAT/REVISE GENERAL NOTES; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A6-3); ADD TOLERANCE (ZN B6-3, C4-3, C8-3 & C5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	09.09.30
D	REMOVE D2732-058, CHANGE TO D3595-063-570	PH	07.03.09
C	REMOVE D2856-600-1087, ADD D2732-058 & MAGNOBOND 6398, MS21920-32 WAS MS21920-30	MB	06.10.27
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	01.10.17
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. E
MFG. APPR.	PH	D412-664-243	SHEET 1 OF 4
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	CROSSTUBE ASSEMBLY (412 HI AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

SHOP COPY
REF: 115290 MJS
140329
DEO ATTACHED

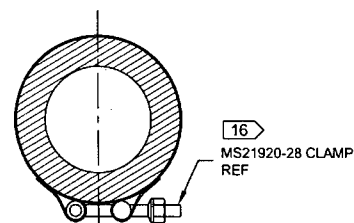
RELEASED
2009-10-29



D212-664-243
ASSEMBLY DETAIL



SECTION B-B D4-2
SCALE 4X

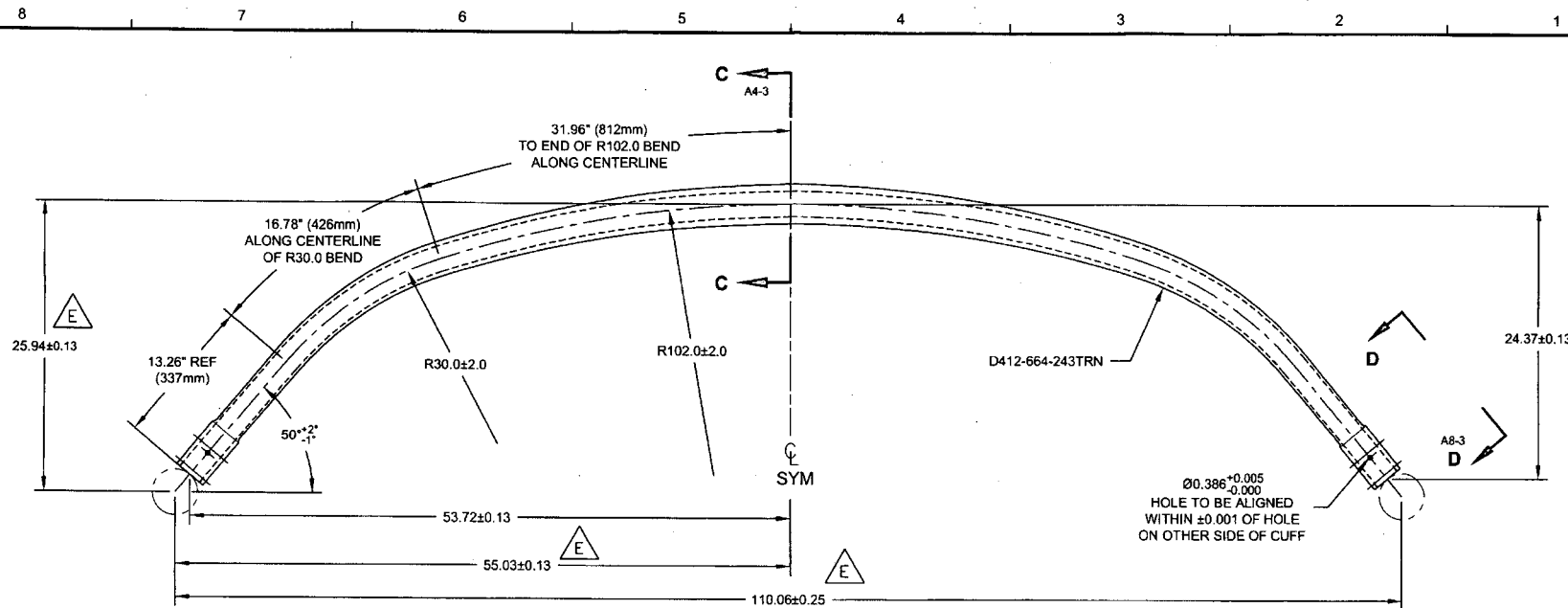


SECTION A-A C6-2
SCALE 4X

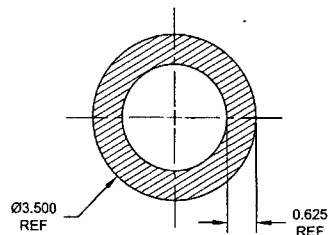
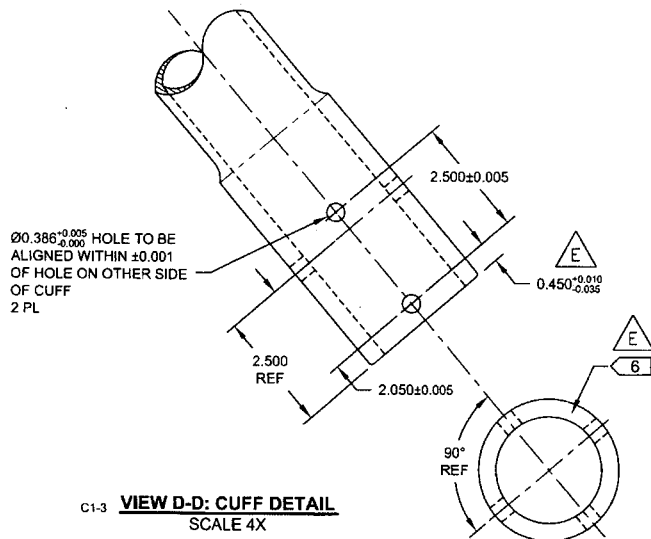
2 DEO ATTACHED

RELEASED
2009-10-28
NAP

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	Q	DRAWING NO.	REV. E
MFG. APPR.	LS	D412-664-243	SHEET 2 OF 4
APPROVED	MP	TITLE	SCALE
DE APPR.	HA	CROSSTUBE ASSEMBLY (412 HI AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2001 BY DART AEROSPACE LTD	
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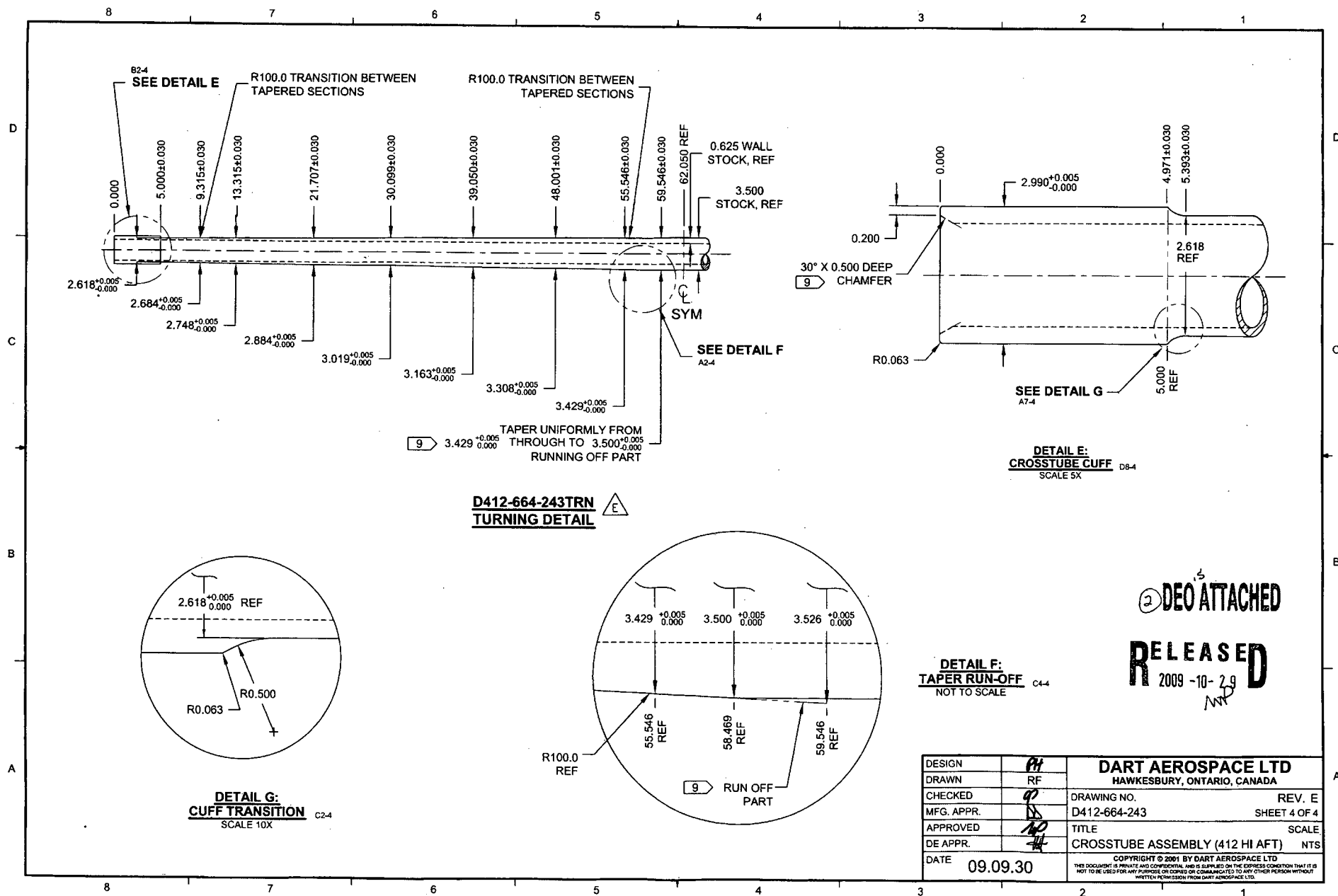


D412-664-603 10
BENDING AND DRILLING DETAIL E



2 DEO ATTACHED
 RELEASED
 2009-10-29
 MP

DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	Q	DRAWING NO.	REV. E
MFG. APPR.	DS	D412-664-243	SHEET 3 OF 4
APPROVED	MP	TITLE	SCALE
DE APPR.	4	CROSSTUBE ASSEMBLY (412 HI AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



DRAWING NO. D412-664-243	TITLE CROSSTUBE ASS'Y (412 HI AFT)	REV. E	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D412-664-243-E-2	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>q</i>	CHECKED <i>AS</i>	MFG. APPR. <i>RE</i>	APPROVED <i>MM</i>	DE APPR. <i>H</i>			
DATE 11.09.07	DATE 11.09.19	DATE 11.09.19	DATE 11.09.19	DATE 11.09.19			

PURPOSE:

REPLACE MAGNOBOND WITH 3M DP460 SCOTCH-WELD EPOXY ADHESIVE

CHANGE:

IS:

Item	Qty -243	Part Number	Description
9	A/R	SCOTCH-WELD DP460	EPOXY ADHESIVE, 3M SCOTCH-WELD

WAS:

9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
---	-----	----------------	---

NOTE 12 & 16, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) INSTALL D2896-1 CENTER SUPPORT USING A 0.04" TO 0.07" THICK LAYER OF SCOTCH-WELD DP460 PER QSI 015. LET CURE FOR 24 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 16) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER ADHESIVE HAS CURED FOR 24 HOURS.**

WAS:

- 12) INSTALL D2896-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2896-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 16) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2011-09-29
MM

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DRAWING NO. D412-664-243	TITLE CROSSTUBE ASSEMBLY (412 HI AFT)	REV. E	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D412-664-243-E-4	SHEET NO. SHEET 1 OF 3	SCALE NTS
DRAWN 92	CHECKED A	MFG. APPR. A	APPROVED MP		DE APPR. MP		
DATE 12.08.21	DATE 12.08.30	DATE 12.08.30	DATE 12/8/30		DATE 12.08.30		

PURPOSE:

REMOVED ABRASION STRIP IN FAVOR OF A THIN LAYER OF PROSEAL 890. UPDATE INSTALLATION OF CHAFING SHIELDS AND REDUCE TORQUE TO 40-50 IN-LBS. THIS ENGINEERING ORDER SUPERCEDES DEO D412-664-243-E-1.

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

IS:

Item	Qty -243	Part Number	Description
6	0	D2856-600-1009	ABRASION STRIP

WAS:

6	2	D2856-600-1009	ABRASION STRIP
---	---	----------------	----------------

NOTES 2, 14, AND 16 ON SHEET 1 ARE AMENDED AS FOLLOWS:

IS:

- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
MASK UNDERSIDE OF CROSSTUBE AS SHOWN (HATCHED AREA)
PAINT OUTSIDE PER DART QSI 005 4.2
AFTER PAINTING, APPLY CLEAR COAT ON HATCHED AREA
- 14) APPLY A THIN COAT OF PROSEAL 890 ON INSIDE CONCAVE SURFACE OF D3189-1 CHAFING SHIELD AND LET CURE PER MANUFACTURER'S INSTRUCTIONS. INSTALL PROSEALED D3189-1 CHAFING SHIELD ONTO CROSSTUBE BY APPLYING A THIN COAT OF PROSEAL 890 ONTO CROSSTUBE. BE SURE TO ELIMINATE ANY AIR GAPS.
- 16) TORQUE CLAMPS ON D2896-1 SUPPORT 80 TO 100 IN-LB. **TORQUE CLAMPS ON D3189-1 CHAFING SHIELD 40 TO 50 IN-LB.** ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

WAS:

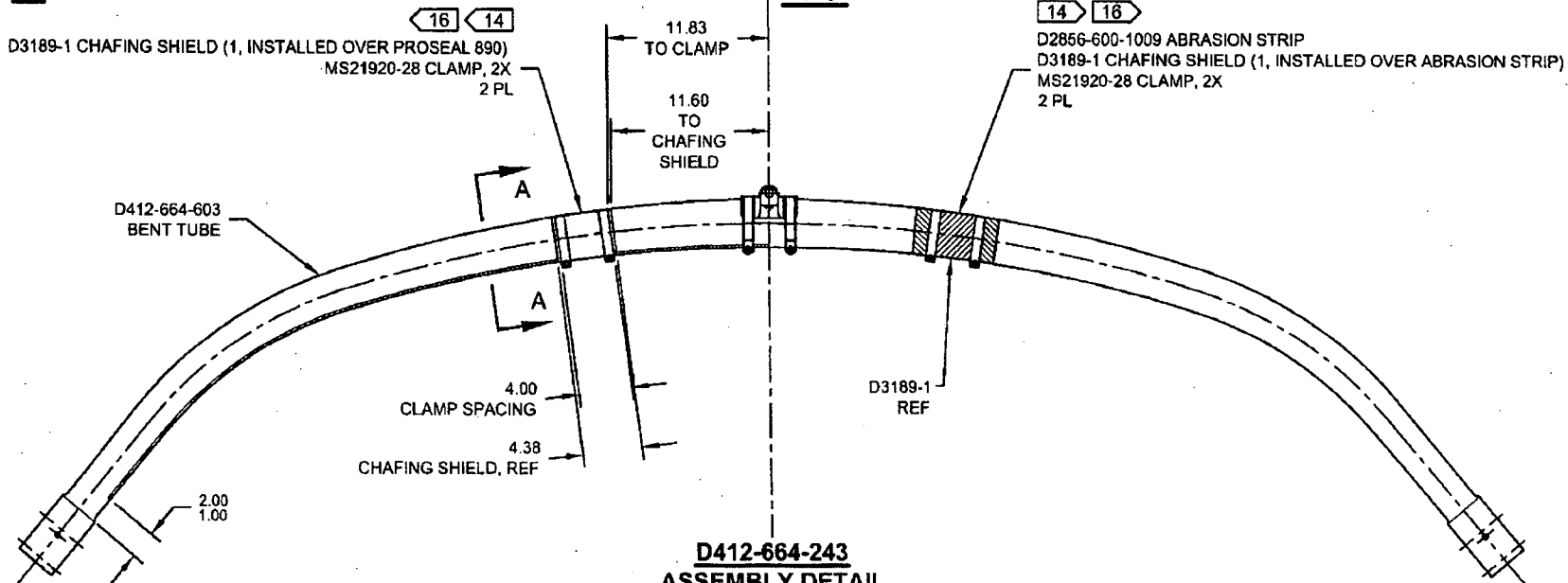
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 14) INSTALL D2856-600-1009 ABRASION STRIPS WITH A 0.13 REF GAP ON BOTTOM SIDE OF CROSSTUBE PER QSI 035.
- 16) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
R 2012-09-04
MP

DRAWING NO. D412-664-243	TITLE CROSSTUBE ASSEMBLY (412 HI AFT)	REV. E	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D412-664-243-E-4	SHEET NO. SHEET 2 OF 3	SCALE NTS
DRAWN <i>q</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 12.08.21	DATE 12.08.27	DATE 12.08.29	DATE 12.08.29	DATE 12.08.29		

IS:

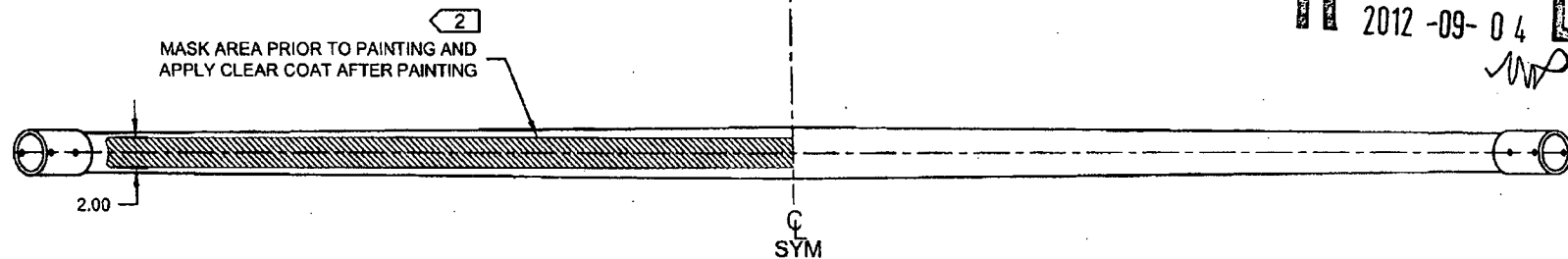
D3189-1 CHAFING SHIELD (1, INSTALLED OVER PROSEAL 890)
MS21920-28 CLAMP, 2X
2 PL



**D412-664-243
ASSEMBLY DETAIL**

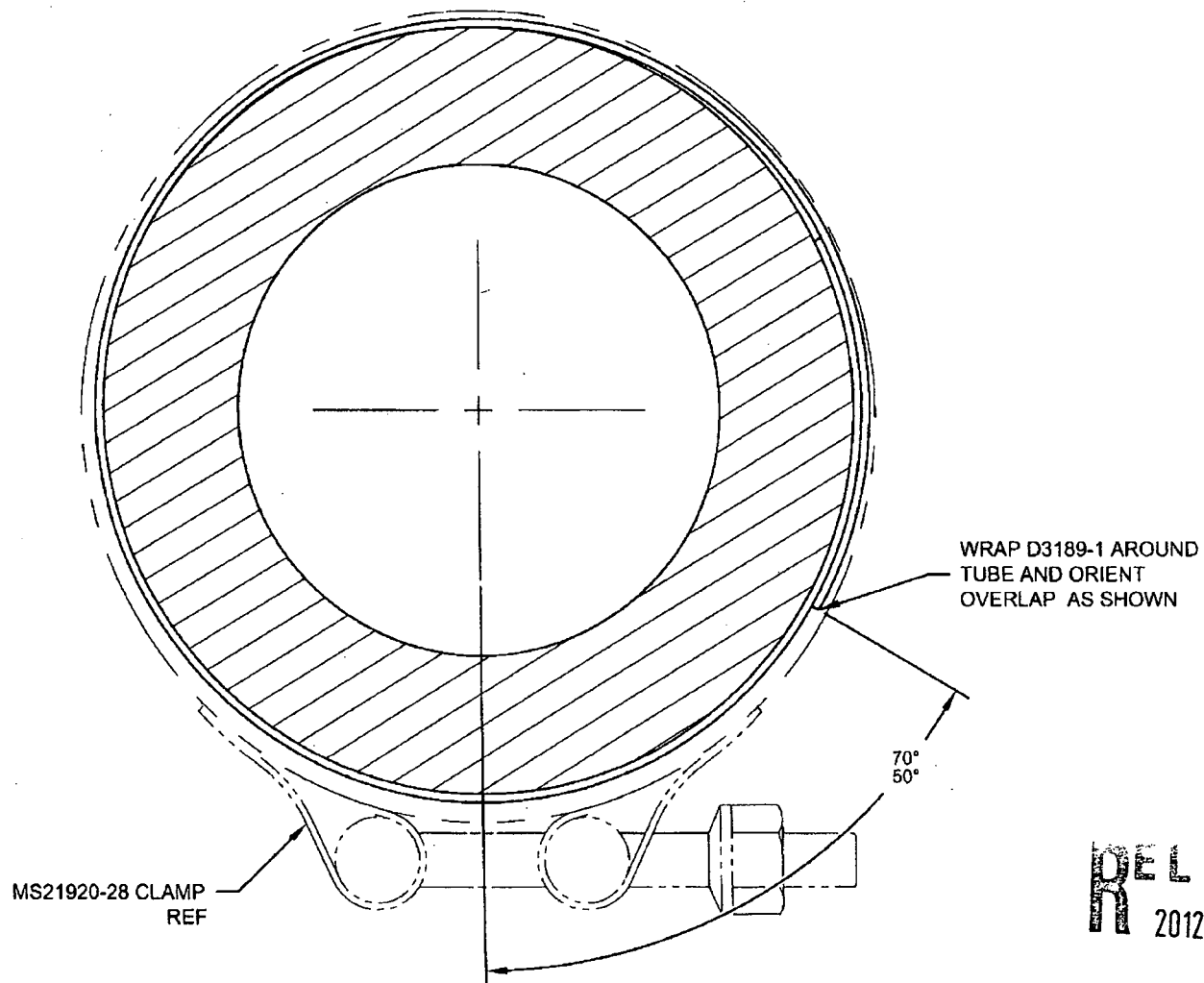
WAS:

D2856-600-1009 ABRASION STRIP
D3189-1 CHAFING SHIELD (1, INSTALLED OVER ABRASION STRIP)
MS21920-28 CLAMP, 2X
2 PL



RELEASED
2012-09-04
[Signature]

DRAWING NO. D412-664-243	TITLE CROSSTUBE ASSEMBLY (412 HI AFT)	REV. E	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D412-664-243-E-4	SHEET NO. SHEET 3 OF 3	SCALE NTS
DRAWN <i>MP</i>	CHECKED <i>MP</i>	MFG. APPR. <i>MP</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 12.08.21	DATE 12.08.22	DATE 12.08.29	DATE 12.08.29		DATE 12.08.29		



SECTION A-A
CHAFING SHIELD DETAIL
VIEW ROTATED, NOT TO SCALE

RELEASED
2012-09-04
MP

412-664-203 Crosstube

BATCH:

Setup:

3.5" rollers for middle bend
-side bends use 3.375 rollers

B 115290

*******MAKE SURE TOWERS ARE AT CORRECT HEIGHT BEFORE DOING INITIAL APPROACH*******

Lines:

29" & 32" from Centerline & 22.25" from cuffs.

2900

Middle Bend

(buggy A 1.75" on cuff)

3.5" Rollers.run prog (odd#'s) M1-3-5-7-9-11-13 CHECK. Run 14,15,16 **AS REQUIRED**, to bend middle. Bend both tubes of Kanban before changing rollers to 3.375"

Approach is **2900** on both rollers, starting @ 32" line on tube with longer end of tube on **LARGE TABLE**.

NOTE: Check middle bend on the board that is down (not bender table board),reference lines **MUST** match up with tangent lines if not the side bends will not work properly.(Hand made ref. line on board 412)

Side bends

(buggy A 1.75" on cuff) **LARGE TABLE**

After changing rollers, start program run 412-side 1 to 5 from 29"line. **Y @ 1820 & W @ 3730** approaches for program 10 (up taper sets itself automatically on 22.25 line. Run program 10 and 12 up taper, repeat on second side then check. must reset approaches for each up taper program from this point on. **Y3500 W3730**.
Run additional programs as required to finish tube.

NOTES

-12/3/1 working with middlefix program to even out sides. after completely running middle programs, (up to 15) ran middlefix program with under bent side on large table, from centre line. we had a difference of about .100" between the two sides before running. afterwards we had two perfect matching measurements for middle bend. approach for middle program was **W2855/3095Y**.

-13/01/24... middle bend (1,3,5,7,9,11,13).....sides 1,2,3,4,5,10,12 CHECK ..run 14,16,18 etc. as needed checking between each program! MO

PASSES:

1
2
3
4
5
10
12
14
16
18
20
21

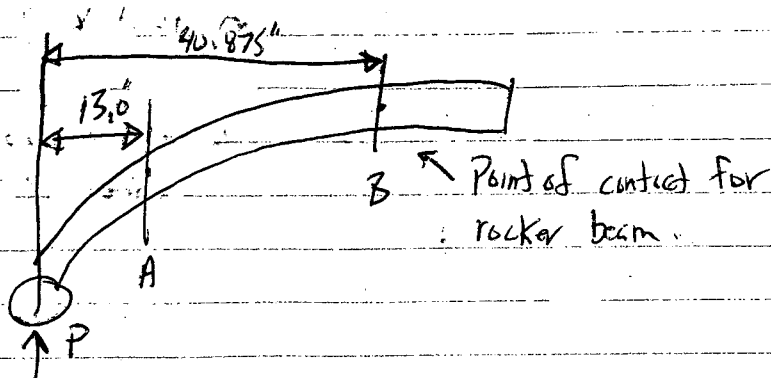
11
3
5
7
9
11
13
14
16

1
2
3
4
5
10
12
14
16
18
19
21

11.12.06

CRUSHING OF D412-664-243

Acceptability of 8% CRUSHING AT END OF BEND



Point A: $OD_1 = 2.961"$, $OD_2 = 2.522"$

$$CRUSHING = (2.961 - 2.522) / (2.961 + 2.522) = 8\%$$

$$I = 1.676 \text{ in}^4 \text{ (from AutoCAD)}$$

Point B: $OD_1 = 3.307"$, $I = 4.613 \text{ in}^4$

A: $F = M_c / I = P \times 13 \times 2.961 / 2 \times 1.676 = 11.484 \cdot P$

B: $" = P \times 40.875 \times 3.307 / 2 \times 4.613 = 14.651 \cdot P$

$$M.S. = 14.651 / 11.484 - 1 = 0.27$$

∴ Tube will break at rocker beam contact before area of 8% crushing, 8% crushing in area at end of tube bend is acceptable

11.12.06

Hilary

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Lot Date: 14/04/13QA Closed: OK Date: 14-4-11

Work Order: <u>115290</u>	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input checked="" type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS			
Part No. <u>D412-664-203</u>		Skid-tube <input type="checkbox"/>	Crosstube <input checked="" type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>
NCR No. <u>14-3726</u>		Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>
		Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>
		Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling	14/3/26	120	1	CRUSHING is over tolerance	DAS 12 9-89	Acceptable.	DAS 12 9-89	DAS 11 9-89	DAS 16 9-89
Operator					14/3/25	Location is not critical	14/3/25		
Material									
Setup									
Other									
Process				PL. Process / Bender		Ref attached S.R.		14/03/26	14/03/26
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General		
<input checked="" type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect
<input type="checkbox"/> Crushed/Crimped.	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Positioned Wrong
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset	<input type="checkbox"/> Pressure/Forced
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration	<input type="checkbox"/> Temperature/Cure
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Weld
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Wrong Stock Pulled
			<input type="checkbox"/> Other





LIQUID PENETRANT TEST REPORT

P- 12853

CLIENT DART AEROSPACE DATE MAR-27-2014 PAGE 1 OF 1
ATTENTION CHANTAL ACUREN JOB NO. 188-14-C0215 TIME AM ☒ PM ☐
ADDRESS ABERDEEN ST. POWO NO. AS ADDRESS
HAWKESBURY, ON WORK LOCATION AS ADDRESS
ACCEPTANCE STD. ASTM E1654-03 REV./DATE
PROJECT LPI - WET FLOW - LIQUID PENETRANT INSPECTION
ITEM(S) EXAMINED SEE IN RESULTS

JOB DESCRIPTION PERFORM A WET FLUORESCENT L.P.I. INSPECTION ON 100% OF EXTERNAL SURFACES ON ITEMS MENTIONED BELOW
PROCEDURE NO. LT-002 REV./DATE 2009 TECHNIQUE NO. LT-002 REV./DATE 2009
PART NO. MATERIAL D6009-129 THICKNESS 21A
SCOPE PERFORM A WET FLUORESCENT L.P.I. INSPECTION ON 100% OF EXTERNAL SURFACES ON ITEMS MENTIONED BELOW

TEST DETAILS
METHOD ☒ FLUORESCENT ☐ VISIBLE ☐ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
FAMILY BRAND MAGNAFLUX BLACK-LIGHT S/N 1398 ☒ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
PENETRANT 2066T MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H₂O MINIMUM DRY TIME >10 MIN. OTHER
DEVELOPER SKD-52 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N 1098866 CAL DUE DATE MAY-14-2014
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☐ MACHINED ☐ SHOT-BLASTED ☒ CLEAN BARE METAL
SURFACE TEMPERATURE ☐ < -4°C/20°F ☐ -4°C/20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- <input type="checkbox"/> METRIC <input type="checkbox"/> IMPERIAL				
ITEM	COMMENTS	ACCEPT	REJECT	
1	Crosstube W.O. ID 114635	✓		ITEM ID D412-664-203 AFT-HIGH
2	" " " 114636	✓		" ID D412-664-203 AFT-HIGH
3	" " " 115203	✓		" ID D412-664-203 AFT-HIGH
4	" " " 115205	✓		" ID D412-664-203 AFT-HIGH
5	" " " 114634	✓		" ID D412-664-203 AFT-HIGH
6	" " " 115206	✓		" ID D412-664-203 AFT-HIGH
7	" " " 115290	✓		" ID D412-664-203 AFT-HIGH

NO RELEVANT INDICATION WAS DETECTED AS PER APPLICABLE STANDARD AT THE TIME OF INSPECTION

Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE YVES DESROSIERS DTR # E20786
TECHNICIAN (SIGNATURE): YVES DESROSIERS SIGNATURE Chantal Laroche REPORT REVIEWED BY:
NAME (PRINT): YVES DESROSIERS 2ND TECHNICIAN NAME INITIALS
CGSB LEVEL 2 SNT LEVEL 2 CGSB LEVEL SNT LEVEL
CGSB REG. NO. 3049 CGSB REG. NO.



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO23535**

Purchase Order Date 3/27/2014

PO Print Date 3/27/2014

Page Number 3 of 4

Order From :
ACUREN
C/O LOCKBOX #310230
P.O. BOX 578 STN M
CALGARY, ALBERTA T2P 2J2
CA

VC-ACU002

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 905-825-8595 ext 247

Ship To Contact
Ship To Phone
Ship Via: Yours ppd
Ship Acct:

Buyer
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB Destination-Collect

Line Total: \$124.4

6	115206	D412-664-203 CROSSTUBE	3/27/2014	1.00	\$124.43	\$124.4
LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2						

Line Total: \$124.4

7	115290	D412-664-203 CROSSTUBE	3/27/2014	1.00	\$124.43	\$124.4
LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2						

Line Total: \$124.4

PO Instructions: Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A020 non-destructive test/inspection identification
A021 dart aerospace processing
A024 process certifications
A026 certification of material conformance

Note: